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Department of Mathematics, University of Michigan, Ann Arbor, MI 48109, and **Dragan  
Vukotic**. *Multiplicative isometries and isometric zero-divisors.*

A key result in the theory of Hardy spaces is the classical theorem of F. Riesz that the Blaschke products serve as isometric zero-divisors. More recently, it was shown that the Bergman space  $A^p$  has no isometric zero-divisors. The proof consisted of producing contractive zero-divisors of unit norm, proving their uniqueness up to rotation, and showing that they are not isometric.

We will give a much simpler proof that the Bergman spaces have no isometric zero-divisors. This is deduced from the easily proved fact that the only isometric pointwise multipliers of  $A^p$  are the unimodular constants. The same approach is applied to the Bloch space, the Dirichlet space, and more general spaces with weighted integral norms. It is shown that none of those spaces admit isometric zero-divisors. (Received September 16, 2008)